CASE REPORT

Anterior maxillary metastasis of gastric adenocarcinoma: A rare case

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ABSTRACT

Metastatic tumors of the oral cavity are rare, representing about 1% of oral tumors. Seventy percent of all tumors metastatic to the oral and maxillofacial region are adenocarcinomas, most commonly originating from the breast, kidney and lung. Carcinoma of stomach is generally described as one of the "captains of men of death". Usual sites of metastasis from gastric adenocarcinoma are direct invasion of adjacent organs, peritoneal dissemination, lymphatic metastasis and hematogenous spread. A primary carcinoma of the stomach may rarely metastasize to the oral cavity, it is important to bear this possibility in mind because such conditions may mimic a benign disease. This article describes a case of metastasis of gastric adenocarcinoma to the maxilla in a 50-year-old male.

Key words: Endoscopic biopsy, gastric adenocarcinoma, maxillary metastasis

INTRODUCTION

Oral cavity is a rare site for metastasis. Sometimes oral cavity metastasis may present as the first sign of an occult primary tumor. Oral metastatic lesions have been described in various cancers, particularly lung, breast and kidney carcinoma. Gastric carcinoma at early stage typically produces mild or no symptoms. This explains why at the time of disease detection the tumor is often locally advanced or metastatic.[1] This case is of interest since there are very few reports on metastasis of a gastric carcinoma to maxillary anterior region.[2]

CASE REPORT

A 50-year-old male patient reported to our department with chief complaint of a proliferative swelling in upper labial gingiva since 3-4 months. About 6 months back the right maxillary central and lateral incisors exfoliated and 2 months later patient noticed a small swelling at the same region which attained the present size. It was not associated with pain or any other symptoms.

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In his medical history, it was noticed that the patient had abdominal discomfort and vomiting on having food from 3 years which had increased since last 10 months. He had undergone endoscopy of upper gastrointestinal tract 3 years back which revealed chronic *Helicobacter pylori* associated gasritis for which he was on oral medication (proton pump inhibitors) till date. Patient was a chronic bidi smoker since 30 years.

There were no significant extraoral findings; also, no significant cervical lymphadenopathy was noticed. An intraoral examination revealed a single, oval proliferative lesion with well-defined borders on the anterior right maxillary labial aspect measuring about 4 × 5 cm extending anterioposteriorly in relation to right first premolar to left central incisor and superioinferiorly from the depth of the labial sulcus up to crest of the ridge [Figure 1]. The color of the lesion was pinkish white with a pebbly irregular surface. When palpated the lesion was soft, painless and pedunclated with a stalk of about 4 cm diameter.

At the initial visit patient had bouts of vomiting associated with abdominal pain, hence he was admitted and symptomatically treated. Incisional biopsies were performed from both mesial and distal aspects of the oral lesion and were sent for histopathologic examination which revealed dysplastic glandular epithelial cells arranged in the form of ductal and papillary pattern [Figure 2]. The cells were tall columnar exhibiting dysplastic features in the form of nuclear and cellular pleomorphism, nuclear hyperchromatism, prominent

nucleoli and numerous mitotic figures [Figure 3] suggestive of metastasis of adenocarcinoma of gastrointestinal tract.

Due to history and current complaint of vomiting and abdominal discomfort, a repeat endoscopy was advised.

Results of upper gastrointestinal endoscopy revealed a proliferative growth at cardia extending into lesser curvature [Figure 4]; multiple biopsies were taken from the lesion. Biopsy report revealed fragments of gastric mucosa showing intestinal metaplasia. Few other segments showed tumor cells arranged in glands, sheets and papillary projections [Figure 5]. The cells were round to oval with hyperchomatic and vesiculated nuclei, multiple nucleoli, moderate amount of amphophilic cytoplasm and exhibited numerous mitotic figures [Figure 6] suggestive of moderately differentiated gastric adenocarcinoma.

Later, on comparison of both reports, a similar origin that is the gastric adenocarcinoma was evident. Hence, it was concluded that the lesion seen in the oral cavity was a secondary metastasis from gastric adenocarcinoma. The case was discussed with tumor board and was decided for palliative chemotherapy.

DISCUSSION

Metastatic lesions to the oral cavity most commonly originate in the lung (26.7%).[3] Other possible primary sites include the breast, kidney, liver, uterus, esophagus, trachea, stomach and testis.[4]

Seventy percent of all tumors metastatic to the oral and maxillofacial region are adenocarcinomas, most commonly originating from the breast (30.4%), kidney (15.6%) and lung (14.8%).[3] These tumors tend to involve the hard tissues more often than the oral soft tissues (2:1 ratio, respectively).[5] The most common sites in oral cavity, in decreasing order of frequency, are the gingiva, tongue, lips, buccal and palatal mucosa.[2,3]

Figure 1: Intra-oral photograph of progressive swelling in the upper labial gingiva

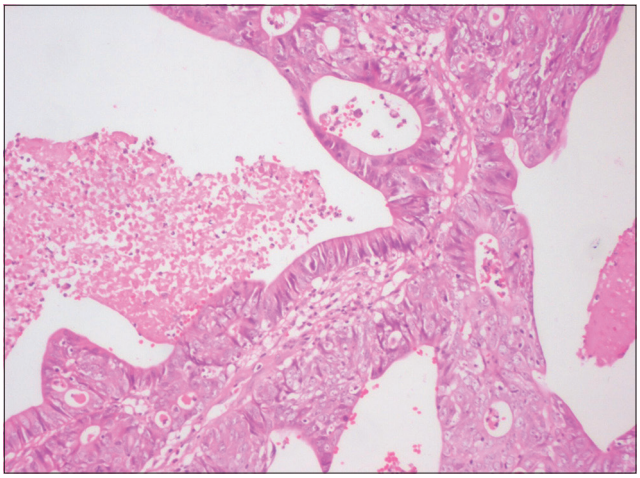

Figure 2: Photomicrograph of incisional biopsy of the oral lesion showing areas of necrosis and neoplastic cells arranged in ductal pattern. (H&E stain, ×40)

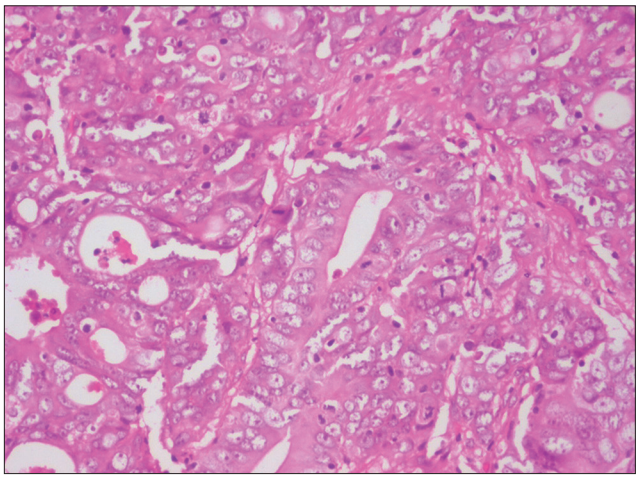

Figure 3: Photomicrograph of incisional biopsy showing tall columnar cells arranged in ductal pattern showing cellular and nuclear pleomorphism. Few cells show mitoses. (H&E stain, ×200)

Figure 4: Proliferative growth at cardia of stomach seen via upper gastric endoscopy

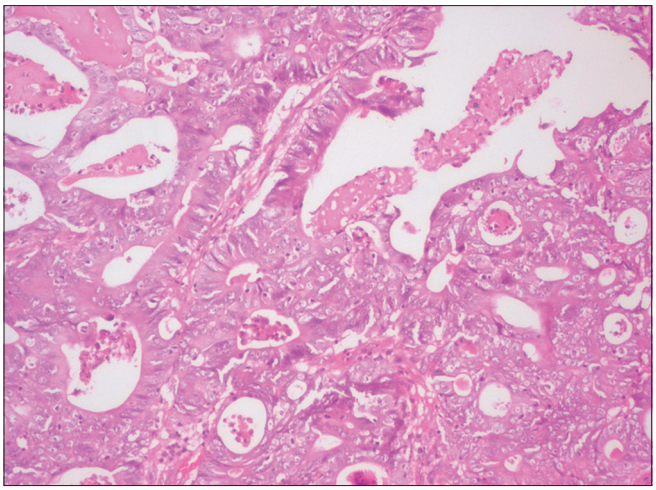

Figure 5: Photomicrograh of gastric biopsy showing tumor cells arranged in ducts and papillary projections with thin connective tissue cores. (H&E stain, ×100)

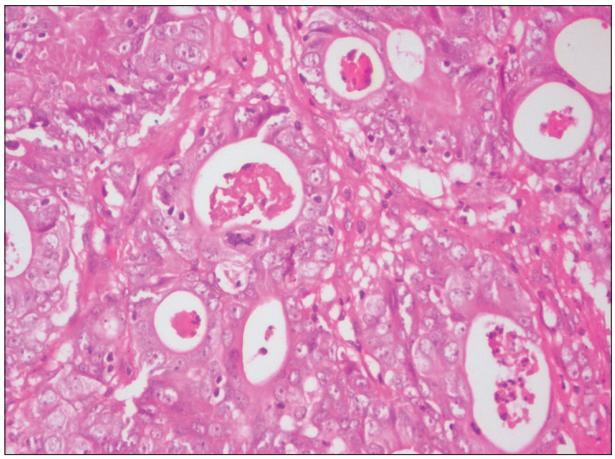

Figure 6: Photomicrograph of gastric biopsy showing round to ovoid cells dysplastic cells with vesiculated nuclei and amphophilic cytoplasm. Apoptotic bodies and a cell with abnormal mitosis is seen. (H&E stain, ×200)

Carcinoma of stomach is generally described as one of the "captains of men of death".[6] Adenocarcinoma is the commonest malignant tumor of the stomach. Males are more commonly affected than females with male/female ratio varying to 2:1 or more at the age of 60 years. From an epidemiological point of view, environmental factors implicated in gastric cancer include low socioeconomic status, high intake of salt, dried or pickled food, smoking and alcohol consumption.[8]

Genetic predisposition is also seen in some cases. Precancerous conditions include chronic gastritis with atrophy and intestinal metaplasia, post gastrectomy gastric stump, gastric adenomas and Menetrier's disease. Clinical symptoms or signs include dyspepsia, anorexia, weight loss and hematemesis, or obstruction of gastric inlet or outlet but these are rarely striking until the tumor has advanced, hence overall prognosis is poor. Gastric adenocarcinoma usually metastasizes by direct invasion, peritoneal dissemination, lymphatic spread and rarely by hematogenous route.[2,7] Lymphatic spread is generally to the lymph nodes located along the lesser and greater curvature and also to nodes around abdominal aorta.[3,7] Spread to Virchow's nodes despite being well recognized is uncommon. Hematogenous spread to distant organs may occur in absence of lymphatic spread. Other sites of metastasis include lungs, bone, skin, brain and liver (most common).[3]

The mechanism by which tumors can spread to the oral cavity is poorly understood. One possible route for blood-borne metastases to the head and neck area is the Batson's plexus: A valveless vertebral venous plexus that might allow for the retrograde spread of tumor cells, bypassing infiltration through the lungs.[2,5,8] There is no scientific evidence regarding the possibility, that direct seeding of the tumor cells in the anterior maxilla may occur due to gastric reflex, as in direct seeding of malignant cells from the oral cavity into lung parenchyma.

Metastatic involvement of mandible and maxilla is not uncommon as a part of generalized metastasis from carcinoma of breast, lung and kidney. Metastasis is more common in females compared to males and most common site is the molar region of the lower jaw. When mandible is involved most common symptoms are pain, swelling, anesthesia or paresthesia of inferior alveolar nerve.[2,5,8] In 30% patients with metastasis to jaw bones, jaw metastasis is the first manifestation of the malignancy.[10]

When a malignancy metastasizes to the oral and perioral tissue, the disease is usually advanced and the prognosis is therefore poor.[9] Oral pathologists play a key role in histological diagnosis of a patient with cancer of unknown primary and in differentiating primary intraoral malignancy from metastatic tumors.

Our case was a rare presentation of its kind. The metastasis was seen at anterior maxillary labial region from moderately differentiated gastric adenocarcinoma in a 50-year-old male in contrast to the literature review.

Conclusively, because of the rareness of oral metastases, their diagnosis is challenging for both the clinician and the pathologist. Benign looking cysts and an exophytic lesion on the gingiva can be the first sign of metastatic adenocarcinomas to the oral cavity, hence metastatic lesions should always be considered as a differential diagnosis even if the lesion has a benign appearance. Clinically, gingival metastatic lesions are most often confused with hemangioma, pyogenic granuloma, giant-cell granuloma and peripheral fibroma.[10] The criteria for metastatic tumor diagnosis is:

- The primary must be identified and verified histologically
- Metastatic tumors must match the histological subtypes as that of the primary tumor
- The chances of direct spread locally from the primary tumor should be excluded.[2]

The prognosis for patient with metastatic carcinoma of the jaws is grave; with a dismal 10% 5-year survival and more than two-thirds of the patients die within a year.[10] In our case the patient died 6 weeks after reporting to us.

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